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STATION NOTES

CENTRAL STATES FOREST EXPERIMENT STATION
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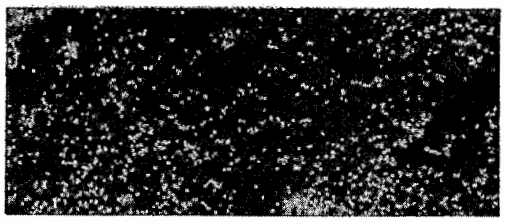
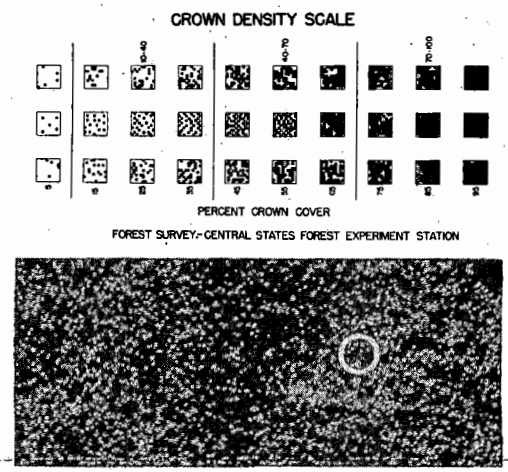
A CROWN DENSITY SCALE FOR PHOTO INTERPRETERS

One method of estimating gross volume of timber stands from air photos requires the measurement of tree height, crown diameter, and proportion of area covered by tree crowns. The estimates of this proportion of crown coverage made by trained photo interpreters, using the crown density scale described below, seldom vary by more than 10 percent.





This scale (see fig.) consists of three columns of squares containing black dots that cover from 5 to 95 percent of the area of the squares. The dots in the two outside columns are randomly distributed while those in the center column are mechanically spaced. The area of each square equals one acre at the scale of 1:20,000 photos. At this scale the dots approximate the size of visible crowns of the average mature hardwood tree.

For most effective use, the scales are trimmed on each side close to the figures. The interpreter orients his photo-pair under his stereoscope, and places the scale on the photos perpendicular to the line of flight and between the eyepieces of the stereoscope. He can see the scale in this position, and can also view the photos in stereo. By adjusting the position of the scale, he can determine which square most closely resembles the crown pattern of his plot. The number opposite this square is recorded as the proportion of crown coverage. To assure an accurate determination, care must be taken to compare only tree crowns with scale dots and to discount all shadows.

Prints of the crown density scale can be secured through the Engineering Office, U. S. Forest Service, Washington 25, D. C.

Karl E. Moessner, Supervisor
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